MORNING SESSIONS. PROVIDENCE, Monday, Aug 20, 1855. The Association met in General Session at 10 A. M. Mr. LESLIE called attention to a paper read by Mr. Jehn Brainerd at the Cleveland meeting and ordered to be printed, but ordered at the Washington meeting to be emitted. He considered that the suppression of a scientific explanation of a scientific subject was dau-

gerous, and asked for the reasons for that suppression The President, Mr. John Corney, presumed that Professor Bache could explain the subject. Prof. BACHE said that the Association was responsi ble for its own action. He was ready to share in that

responsibility as a member. Mr. EDWARD DANIELS recollected that when the paper was read it was received with very obvious marks of dissatisfaction by many centlemen with regard to the merits of the matters discussed in it. The papers went ments of the matter successor and were ordered to be published, and would have been published if it had not been for the accidental delay which took place in the publication of that report. The next meeting took it upon itself to review and reverse the action of the pre-vious meeting, without assigning any motive.

Prof. BACHE would say that the Association was body always existing, and had a right at any time to revise its action. As to the idea that few of the members knew about this revision, for himself he knew nothing about it, and he supposed it would be found to be the case with most of the business of the Association that comparatively few of the members know anything about it. But still it was like the common law-everybody was bound to know about it. If members sid not choose to be present, he could not

Mr. DANIELS said that there was such a thing as bringing things of this kind out when there were very few persons present. If a paper which had already been passed upon were to be suppressed, it should be dene with the greatest deliberation. There was an overshadowing of the great intellect over the lesser in the Association which was perfectly proper, but it in the Association which was perfectly proper, but it should be used in such a way as to encourage other members of the Association. Mr. Brainerd's paper, although brought before the Association in a mouest way, was received with harshess, and this treatment seemed to indicate a desire to crush the gentleman. Therefore he moved that a Special Committee of three he amounted to invastigate the matter. be appointed to investigate the matter.

Mr. Wolcorr Gibbs moved as an amendment that

the matter be referred to the Standing Committee. Mr. Dastels said that the Standing Committee

were now overrun with business.

Pref. Horron thought the Association were in a hard case. If he were to get up and read a paper that was sheer nonsense, it must be heard to the end or the Association would be blamed, and if he were to read it, and they were not to print it, they would be blamed so much the more.

The whole subject was then referred to the Standing Committee to report upon at the next meeting.

Prof. BACHE then said that he rose to make an annemperment, and to offer some resolutions of condolence in reference to the decease of one of the most musificent patrons of science, the Hon. Abbott Lawrence of Boston. After struggling for 18 months with a mortal disease, he had at last yielded and was gone. Having acquired in middle life an ample fortune, Mr. Lawrence, considering himself as the steward of that great property intrusted to him, liberally bestowed a great property intrusted to him, liberally bestowed a darge portion of his infimense income upon works of charity and hospitality of the most munificent sort, and upon all objects connected with learning or with seciones, which were brought properly to his attention. It was in reference to the Lawrence Scientific School that he would particularly address the Association. Mr. Lawrence gave \$50 000 as a foundation for that great institution for the promotion of Science and the diffusion of Scientific Knowledge, the Lawrence Scientific School at Harvard. And if I am not much mistaken, it will be found in his will that he has continued after his death to that child such a provision as will even raise, it to a greater degree of prosperity than it now enjoys.

Prof. Bache read a letter to Abbott from his brother Amos when he founded the Scientific School, which has already appeared in type. In the course of it he expresses his cordial approval of the gift, and calls it the best investment he had ever made.

Prof. BACHE continued: The success of that institutution Mr. Lawrence had lived to see and reconst Peirce, after having witnessed the examinations, being struck by the spirit of research and of true philosophy which was inculented there, addressed to Mr. Lawrence on his dying bed a letter which most have gladdened him to the soul—a letter telling him what the Institution had done. Mr. Lawrence, if would be recollected to the secondary of the Association was avoided. by some members of the Association, was appointed by Gen. Taylor Secretary of the Navy. He fest com-pelled to decline it, but on visiting Washington to present his excuses to the President, he mentioned to him (Mr. Bache) that one of his greatest regrets in declining was that he could not organize a plan for the nauties! almanac which he had considered favorably; "but," he added, "I will speak personally to my suepeasor that this plan shall be carried "I were Secretary of the Navy." As Minister to the Court of St. James, the scientific men who visited Europe four d always in Mr. Lawrence a kind friend, one who was ready to introduce them everywhere. His hospitality was well known to all, and those mem-bers of the Association who had not had the acvantage His hospitality was well known to all, and those members of the Association who had not had the acvantage of visiting Europe, but who wished to communicate with scientific men there, found from Mr. Lawrence facilities of every sort, and such as could only be had from one in his position. Such a man deserved that they should express their regret at his loss; and he proposed therefore that they should adopt some resolutions which he was conscious feebly shadowed forth the feelings which they experienced, but which might serve to show that they were not unmindful of the loss of those who were the friends of Science.

Prof. Bache then offered a series of resolutions of

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"Ympathy and condulence. Mr. SAMUEL B. Rungtys rose to second the resolu tions. He concurred most cordially in the judicious and elequent tribute paid by Prof. Bache to the priwate virtues and public services of Mr. Lawrence-and would on'y advert, in addition, to the position he had occupied in respect to American science as rendering the proposed Association peculiarly appropriate. Mr. Lawrence was probably the most important of the many important links which bound this Association to the community around it. In tru'h he was the very type of that great and generous portion of the American public, ready and willing at all times to lend their hands and heads and hearts and purses to the support of science. Nay, more. Mr. Lawrence stood forth the fiving exponent of that wide spread opinion now pervading the American mind, that American Collegiate Education is radically defective. He saw and folt, as so many others are beginning to see and feel, that Man was made to study the laws of Naure—that physical science is a positive necessity in any enlightened was made to study the laws of Naure—that physical science is a positive necessity in any enlightened scheme of instruction—that the hitherto undisputed sway of mere language, and quildities, and verbal subteties has passed away. In a word, in Abbott Lawrence the fundamental kies was made incarnate, that men to be men must study not only serial but thengs. Mr. Ruggles said, that for one he believed the charge, that the community was indifferent to the necessity of the highest intellectual culture, to be wholly unfounded. On the contrary, the public desired and demanded a more comprehensive education—one more suited to their best and highest interests and necessities—not a narrow teaching, drawn from the moldering cloisers of dark and by gone ages, but a full, fresh, living volume of instruction, both in science and letters, enlarged, modernized and adapted to the century and to the civilization in which we are actually existing. Mr. targed, modernized and adapted to the century and to the civilization in which we are actually existing. Mr. R. said it had been his good fortune frequently to hear from Mr. Lawrence full and animated expositions of his views on this all important point, and it was but due to his memory now to bear testimony to the strong many sense, the practical sagacity, the notice and act-ple patriotism which he had carried into the whole sub-rect. His broad and calightened vision had enabled him clearly to discense the house of the strong him clearly to discern, in this young empire of ours, a new people, placed by the Providence of God on a new and all-but untrodden Continent, there to build up a and all-but untrodden Continent, there to baild up a New World, by the fallest development and best exer-tion of all their physical, intellectual and moral powers. Taking such a view, how could Mr. Lawrence think the Taking such a view, how could Mr. Lawrence think the education sufficient or suitable which is monopolized by language and metaphysics, and which fail to include a thorough study of the vast material Universe, with all its varied and majestic concords, its mighty and beneficent powers and agencies? Convinced of the wre ched chorteomings in this respect of most of our existing colleges. Mr. Lawrence founded and endowed, on a reals of requisite amplitude, the Scientific School at Combridge, bearing his honored name; and there it will stand for coming ages, and as long as the educational history of our country shall endure, the precur-

sor and model of kindred establishments to be scattered broadcast throughout the length and breadth of our favored land. It is not for this association to add to the large and honest renown of their lamented patron, associate and friend. He himself has sown the seed of his own ample and glorious harvest—for where in all the broad expanse of our continental Union, from the Atlantic to the Pacific, is there a community or hamlet so small or remote as not to know and pronounce the name of Abbott Lawrence, as the most sagesious, patriotic and munificent patron of American Science?

Dr. WAYLAND could hardly let these resolutions pass without rising to say a single word. It so happened that Mr. Lawrence was kind enough to converse with him on this subject when he was organizing this school, and he was very much struck, as his friend Mr. Ruggles was also, with the largences of his views, the clearness of his conceptions, and with the distinct knowledge that he had of what he was dolog. He had a distinct object in view; his object was to comhad a distinct object in view; his object was to com-mence an institution which should be a type of other institutions that should spread the blessings of science throughout our country in a way in which it had not before been spread abroad. He looked upon him (Mr. Lawrence) as a type, as Mr. Ruggies had said, of what was to be. He had set an example for men of wealth in this country. While Boston would always be proud of the name of Lawrence there would be other Law-rences arising in New-York, in Philadelphia, in all our large cities—a train of men that would do honor to the large cities—a train of men that would do honor to the large cities—a train of men that would do honor to the country and to human nature. But however large this train might be, however noble and however magnanimous, they would all date from the name of Lawrence—they would all be the Lawrences of this country. He believed that no honor which they could confer would be really adequate to the noble, high-minded, patriotic effort of this man whom all felt honored by claiming as their follow sitium.

claiming as their fellow-citizen.

Prof. Prince would not have it thought that because none of the tributes which had been paid Mr. Lawrence were from his own State, that he was not appreciated at home. He had been universally beloved and respected in his own State. All his friends and neigh-bors felt him to be the source of more goodness in his native city than perhaps any other man ever was.

Prof. SILLIMAN, Sen., as one of the older men, added his word to the tributes which had been paid, and the

resolutions were unanimously adopted. The Association then divided into Sections.

In the Section of Geology, Mr. EDWARD DANIEL detailed a rather remarkable occurrence of silicious grits as vein stones in the lead mines of Wisconsin. Mr. JOHN BRAINERD followed, referring to the paper

which be had read at Cleveland, claiming a chem origin for quartz in conglomerate. Since then he had seen pebbles which on breaking were found to contain

President HITCHCOCK presented a paper sent by a member of the Association, a missionary in India, Mr. Burgess of Satars, on the geology of India, and also on the composition of Table Mountain at Cape Town. There was in the Ghants the most extensive region of trap in the world; the bed was 600 miles long and he knew not how many miles broad. This was traversed by river valleys 600 feet deep, worn down turough the trap. The trap was covered with tufa, this with amygdaloid, and this with carbonate of lime from hot amygonion, and the win carbonate of hise from hose springs on a wonderfully extensive scale, while laterite capped the mountains. President Hitchcock exhibited specimens of all these rocks and a splendid crystal of calcite, also of the rocks composing Table Mountain, which were precisely the same, he said, as those of the table land 800 miles to the northward.

Mr. Redefield said that the British geologists placed

with this immense bed of trap a layer of sandstone, which from some of its figured fossils he took to be the equivalent of the New Jersey red sandstone. The lighty pterus was precisely the same.

President Hircucock then gave an account of the

manner in which he was first led to the observance of glacial marks and the localities in which he had since found them, from Monroe to Shelburne and from Becket to Westfield, on the tributaries of the Cor necticut. He was first led to notice them by seeing east and west scratches in the side of a gorge, while on the summits on either side were the north and south strid of the drift. He had found also what he was compelled to call mornings. He had scarcely explores the Hoosac range at all with this object in view, but it did seem to him that he had too many cases to be the result of investmention.

the result of imagination.

Mr. Daniels said that in Wisconsin he had found one case of drift-strid which declined 40 degrees from the meridian, though the varia ion was generally from

Mr. REDFIELD said that the drift-strid seemed to him to be divided into two systems, one magazine to the two currents, as there were now two currents in the ocean. So far from being led down into the val-leys, there was a case in New-Jersey where strid rose up overa high hill, where there was a valley on both

Mr. Lesure cited a more striking similar instance in Pennsylvania, where the valley on one side was 2,000 feet deep. He had seen in Wales Y-shaped valleys, with the point turned upward, which could never be owing to glaciers.

Mr. Les had noticed similar grooves north of the Catskill Mountain-House, 2,700 feet above the sea.

Dr. STEVENS alluded to a block of granite found in the very act of digging a groove in limestone in Western New-York. The boulder was considerably rounded.
President Ηττιιοοοπ said that the difference between drift and modified drift was as distinct as be ween the silurian and cretaceous formations.

Mr. STEVENS exhibited some specimens of sulphuret of iron formed in coal since the drift era, and accompanied them with a few remarks.

Prof. Agassiz exhibited the formation of epidote at Nahant, from sandstone and organic limestone, by Plutenic agency, and sowe remarkable lines of separation in metamorphosed stratified rocks of the Carbeniferous era, at the same place.

Mr. Jas. Hall spoke of the development of the septs in the genus Bacalites becoming more complex during their growth from extreme youth to adoloscence. The same thing had been observed before in Ammonites. These young Bacalites resembled the

young of Cephalopods.

Prof. Agassiz said that these fac's were certainly new with record to Bacalites, and Leopold von Buch had alluded to the growing complication of the septa in young Cephalopods. About eight years ago he had called attention to the correspondence between the young of present species with older fossils, and pointed out the identity in form of the young fossils with the higher representatives in the living state. The fossils of ancient times would thus help us on with The fessils of ancient times would thus help us on with embryonic observations on living species. Should we go on neglecting this? Now, he was making these remarks to tire out the Section until whenever a new fessil was brought it should be connected with some fiving embryo, and whenever the embryologist found anything new he should refer it to palcontology of old times, and then we should know how mankind stood with reference to the animal kingdom, and should no kreer be troubled by these fancies about the origin of man in all the ways in which he had made his appearance upon Earth.

SECTION OF MATHEMATICS, PHYSICS AND ASTRON

OMY.
OS THE STORM of Oct. 7, 1854, near the Coast of Japan, and the conformity of its progression with other Cyclones. By WM. C. REDTIELD.

A storm in the Pacific having its turning point, the vertex of the track in lat, 27 30' eastward of the Loo-Choo Islands. On projecting it in the chart of Atlantic storms, varing its longitude 150° to the east, but retaining its latitude, it appears entirely similar in its track to the generality of Atlantic Cyclones. The field of scientific investigation of storms has now encircled the globe, with the exception of the interior of Asia, and they are found everywhere the same.

the investigations which Mr. Redfield has now nearly concluded. [N. B.-Mr. Redfield obtained his data for this storm from the columns of THE N.Y. TRIBUNE. ON THE PHYSICAL PHENOMENA presented during the Solar Eclipse of May 26, 1854.

Most of the facts observed at Ogdensburgh by Prof.

Alexander have already been published. Some few others have since come to light. Except some observations at Kisgston, C. W., all the other complete ob servations of the annular celipse projected were defeated by clouds. At the time of the first laternal contact when the cusps were approaching each de tached a drop which the advancing cusp soon caught up. Next came a view of the outline of the moon seen by might extending from casp to cusp. Then came a twilight quite bright near the edge of the

moon; then came the edge of the sun a slender broken line like the mercury in a thermometer fabe when the column is broken. Daguerreotypes taken of the sun, then taken and others since taken have a double image. It appears that the rays causing the secondary image underwent two reflections. And it results that the image from unreflected rays is negative or dark, while the secondary image was bright. May it not be that some such means may sketch the immediate vicinity of the sun? "London smoke" glass seems to take off the glare from a landscape so as to give great beauty to a photographic sketch. beauty to a photographic sketch.

Prof. HENRY would add to this paper the substance of the paper that he was to have read on Saturday, on the "red fismes" of a total eclipse. Professors Alexander and Henry were observing together upon this phenomenon. It is now settled that this red light comes from the edge of the sun, and can be seen only by the aid of peculiar colored light. But using a large Fresnel lens, and throwing the image two inches in diameter on wood, it took fire, and behold in the smoke I saw the rd flames of the sun as seen seventeen years before! And strange to say, they were only visible in the glass which showed the red flame in the sun. When the eye becomes tired by gazing on bright white light, the flame of a candle is invisible through white light, the name of a candle is invested coronal all other screens but that kind; in that it is crimson. It is probably a subjective color existing in the eye, and is the result of white light.

Pref. ALEXANDER thought in the case of total eclipse the red was real, but that Professor Henry's explanation was cerrect as to the annular.

ON THE WINDS-BU COM. WILKES.

Capt. WILKEs approached his subject with diffidence, as the theory of storms is very old. There is found to be a belt of heated water running around the world. The equator of heat lies mostly north of the Equator, dipping only once south of the Equator for a few degrees in the center of the Pacific. Temperature is the great destroyer of the equilibrium of the atmosphere. Franklin first discovered that a north west storm began at the south-west. Trade winds have no connection with the rotary motion of the carth. Under the Equator we find winds blowing from the west. Take the world over, there is more west wind than from the east. The south-east trade winds are entirely different from those of the north. Trade winds never blow home to the land—calms or monsoons intervene. In the Pacific the trade winds are much more irregular than in the Atlantic. The heated belt of water, the heated deserts, and the beated mass of water in the center of the Pacific, are the causes of trade winds. All of them rush toward the heated areas. The circulation of the atmosphere is not between the Equator and the Poice, but bet veen the upper and lower regions of the atmosphere. When the trade winds pass the Andes they make a leap of 300 or 400 miles she fore touching the sea again, and in that space are the monsoers. When the sun is vertical the trade winds are fiftul and squally, and not regular as the monsoons are. The land and the sea breezes are the illustration of all winds, and even of storn s. Cold air will go to the warm, and never the warm to the cold. No return current was noted at the top of Mannahov. The earth does not slip away from its atmosphere, as metercologists suppose. This is from the west. Take the world over, there is more top of Mannahoa. The earth does not slip away from its almosphere, as metercologists suppose. This is shown by the ascent of zeronauts. Here he proved to the satisf-ction of all doubters that the winds are not caused by the inertia of the atmosphere, letting the earth slip past it, which, if it made the wind, would make it blow 1,000 miles an hour. There are no rainbearing winds. Vapor percolates or filters through the atmosphere, and travels against the wind. On a point of the western coast of South America in the rainy season it rains just five hours each day, and then clears off, and it takes the am just about the same time to cross the Atlantic, and it seems to bring its daily supply of rain with it. daily supply of rain with it.

ON THE DEGREES AND ZERO OF THE THERMOMETER,

By Pref. I. F. HOLTON. The Thermometer is not, as its name would indicate, a measure of heat. It merely shows that one temperature is the same as another, or higher, or lower, but it does not measure the difference between them. The Thermometer shows for instance the temperatures that we name 40°, 50° and 60°, but it does not follow that the difference between 40° and 50° is the same as that between 500 and 600. Indeed, it is not proved that these differences are commensurable quantities at all; or than the seal is other equal to the other, greater or less. It may be as impossing the seal of the conditions of the or the steements of the other, greater or less. It may be as impossing the constant of an arrange of the constant of the const at 1220 and 6600 at 2120. In other words 100 volumes at 320 become, by an increase of 200, 118.75 while 900 from 122 to 212 increase 100 volumes only to 115.79. Thus, causes that we assume to be equal produce unequal effects. But the assumed law of expansion of gases may itself be called in question. For if 480 volumes at 320 lose one volume with each degree of temperature, at 4470 they will be reduced to a single volume, and at 4480 annihilated. But if we admit the law for temperatures above 320, and would so modify it that each increase of 100 ftemperature shall convert 100,000 volumes into 100,208, then must the divisions on the scales, both of the air thermometer and also of on the scales, both of the air incrined and progressively the mercurial, be made logarithmic and progressively the mercurial. This would adthe mercurial, be made logarithmic and progressively larger is the temperature increases. This would add to the difficulty of graduation without any compensating advantage. If equality can be predicated of increments of heat it must presuppose an ascrtainable absolute zero, just as equal gradations on a hygrometer, were there such an instrument, would be based on an absolute dry ness of a gas. I will not speculate on the possibility of ever measuring the absolute heat in any temperature. I have designed only to show that all the points on all our thermometric scales are arbitrary like those of Woogowood's Pyrometer, and all that we can do is to select such as can be best ascertained and repeated in successive instruments. The safest and most ready of these is by using the difference of expansion between mercury and glass. A boilsafest and most ready of these is by using the difference of expansion between mercury and glass. A boiling point and a freezing point being duly established, the space between them should be divided into equal parts, and the points between them constitute permanent landmarks for the indication—not the measure—of temperatures.

Two points are still open to discussions; the size of the degrees and the zero. The size of the degrees Two points are still open to discussion; the size of the degrees, and the zero. The size of the degree should not be larger than the least now in use. I would be better for the purpose of graduation that the number between boiling and freezing were 256, or some other power of 2; but the mechanical difficulty some other power of 2; but the mechanical dimension and the necessity for exactness are not so great as to demand a change from 180, which makes them so small that we rever divide them, except in mean temperatures. Those of the Centigrade and still more those of Reaumer are scriously objectionable, as observations ought generally to be recorded in fractions. As to the zero, it should not be higher than the lowest in to the zero, it should not be higher than the lowest in use, as even that requires negative signs in observations on the air in high latitudes. It is a pity that a zero were not taken near the freezing point of mercury or even below the supposed ten perature of the planetary space, but the number of observers in high latitudes is too few to render a change advisable for their cenvenience. But a zero at the freezing point is a serious evil, involving so much labor in placing signs of positive and negative, and so much error in the use of them as justly to demand a new scale were there them as justly to demand a new scale were there

But has the Centigrade scale no advantage over that But has the Centigrade scale no advantage over histof Fabrenheit in virtue of its concessinal division? I answer none whatever—absolutely none. Decimal subdivisions are a great convenience, and if is to be hoped that the first examples of each—the American corand the French weights and measures—may soon become universal; but such convenience is not promoted by the Centigrade scale, which has no subdivisions. For while every day thousands multiply and divide by 12, because 12 make a dezen, 12 lines make an inch. 12 cances a pound, and 12 pence a shilling; no by 12, because 12 make a dezen, 12 lines make an inch, 12 onuses a pennd, and 12 pence a shilling; no one ever yet multiplied by 22, because it is the freezing point, or divided by 212, because that is the boiling point. Let us then adhere to our present scale so long as it shall be the best extant, and not, by grasping at the shadowy advantages of a centesimal division, lose the substantial good of small degrees and a zero below the ordinary range of atmospheric temperature.

New Tables for Connection Pink Legacoustics

NEW TABLES for Concerting Right Ascensions in o Declinations. By J. D. RUNKLE of Naut. Almanac.
The operation referred to, though uninteresting, is one to be repeated so often in the lunar ephemoris that is desirable to save the labor of computing, while tables for the direct reading of declinations would be of almost illimitable size. The new tables are such as to abridge the calculations; but the public will only be interested to know that it will reduce the labor of cks to days and increase the accuracy.

On an Index of Papers on Subjects of Mathemat-ical and Physical Sciences. By Liout Hunt. The division of mental labor creates a skill almost reternatural on certain points, while the same man is sewhere a blunderer and a bigot. Thus, if a man

mends that, he shows that he has a'ready immediated himself to the Juggernant of public good. Subdivisions of research should be sifted and arranged by judicious metographers. Monographs are the great want of the day. This has been appreciated better by physiciats than by mathematicians. Agassis has given us such an index of Natural History, giving the title of every work and essay extant. A like labor is needed for all other branches of science. Lieut. Hunt has been employed on one of limited range for those topics in cossary in the Coast Survey Office, but a herendean task, which is only shadowed forth in Young's Catalogue. It would serve an especial service by making known in Europe much that is valuable, but which has not been placed within the knowledge of scientific men in Europe. men in Europe.

Longitudes by the Occultations of the Pleiades.

The occultations of the Pleiades can be made as a curate as the system of the observer is capable of recording, owing to the difficulty of appreciating minute portions of time. The theory of the Moon must be corrected before isolated operations can be relied on for the highest degree of accuracy. Combined observations must be employed on groups, and of these there are but two that can be used, the Pleiades and Hyades. The latter have not yet been measured with sufficient accuracy among themselves. The Pleiades have been thoroughly measured, and by numerous observations on them the precise path of the Moon over them would be ascertainable. But the great difficulty is owing to the irregularines of the edge of the Moon, and this cannot be remedied by direct observations on the Moon. We must use for that the occultations of the exact form of the edge can be found approximately. The whole number of occultations now recorded is much over 2,000. Take each degree of the Moon as a sort of curve by itself and we have more than ten observations already on each degree. Arrangements are being made for facilitating these observations, by publishing and distributing charts of the Pleiades which vations must be employed on groups, and of these lishing and distributing charts of the Pleiades which will enable the observer to know the time and stars of

Occultation.

One important measure should be urged on the Coast.

Survey: the introduction of a Heliometer, of which we have not one in this country. The task of mapping the Moon's edge may be increased somewhat by libration unless it may be neglected, as is probable.

SECTION OF CHEMISTRY AND NATURAL HISTORY. ON THE MINERALS of the Wheatley Lead Mines. By J. LAWRENCE SMITH.

Mr. Wheatley has rare localities for minerals in his various mines, and be makes use of them as a gentleman and a naturalist (and he is a good type of either) should. The show before us was beautiful.

ON THE METHOD of analyzing the Sulphate Arsenate and Molybdate of Lead. By J. Lawrence Smith.

 Λ paper very apropos to the preceding.

Laws of Reproduction, considered with reference to the marriage of near blood relations. By the Rev. Charles Brooks.

Stern, yet benignant laws, unknown to us, underlie the great agencies of reproduction. We can only appreach to a knowledge of them by facts developed by them. In the offspring of near relations there seems often to be an arrest of normal development of body or mind. Mr. Brooks produced a long and not very agreeabe list of examples, many from his own observation on Martha's Vineyard, where they can persuade few strangers to settle. These prove nothing, as they contain no statistics, and the statistics be used are not new. He comes to the following conclusions, which probably are correct: The laws of breed are the same in man as in other animals; that an unusual number of imbedies are found in the families of those who have married first cousins; and that few, if any children, born of cousins exceed their parents in bodily strength or mental power. He thinks that further investigations and statistics are wanting, and commends the matter to those who have to do with Islanders, Indians, Gipsies and Jews.

Mr. WM. P. BLAKE gave some remarks in relation to the MAMMOTH TREES, one of which is in the Crystal Palace. The grove of mammoth trees he said was near the sources of the Calaera, near California, in a sheltered valley about 5,000 feet above the sea. This valley was densely wooded with evergreen trees This vailey was densely wooded with evergreen trees, and the great trees tower above them, presenting a magnificent spectacle when viewed from the surrounding hills. A hotel had been erected in the grove by Br. Laphan, and he had counted up ward of 190 trees, including young and old. They were mostly found michial acceptage of a mile square, and are get erafly first the gravity of a mile square, and are get erafly first season of these trees was variable, the diameter ranging from 15 feet to over 30, and the hight from 250 to 360 feet. Mr. Blake measured one tree now standing and found it 94 feet in circumference. The tree which was cut down was partly used for lumber, and the top part was smaller to the companient of the same stripped of the bark for 30 feet, and it was the intention of erect a spiral starresse about it so that visitors could ascend to the top and overlook the grove. The geology of that vicinity was simple. The underlying rock is a hard granite, and the soil is apparently derived from its decomposition. It is apparently derived from its decomposition. It is deep rich and well watered. In account to inquiries, Mr. Blake stated that he had measured the rings suffi-ciently to satisfy him that they did not much exceed 1,000 in number.

Dr. Torrey made some remarks upon this peculiar grove and said that from recent examinations he had been led to decide that the trees were of the old genus Sequola and not a new one as is supposed by Lindly, who I ad proposed the name of Wellingtonia gigantea, the name now became Sequola gigantea.

The next paper was also by Mr. BLAKE on "A peculiarity of the Redwood (genus Sequoia)." He showed that the wood becomes black atmost instantly when washed with an alkali. A smooth board being treated with a solution of potash became black and showed the grain most distinctly.

APTERSON SESSION.

The Association met in general session at 4 P. M. The Committee on Reception sent in an invitation o members and their ladies to a complimentary dinner on Wednesday at 2 P. M.

Prof. Caswell said that they hoped that none would leave previous to the dinner unless they were absolutely compelled to.

The invitation was accepted. Officers for the year ensuing were then elected as follows:

President-JAMES HALL, Gen. Secretary-B. A. GOULD. Treasurer-Dt. ELWIN.

SECTION OF MATHEMATICS, PHYSICS AND AS

TRONOMY-AFTERNOON SESSION.
ON THE ASTEROID PLANET. By Prof. S. ALEXANDER. By a most masterly use of circumstantial evidence of a delicate nature, Prof. Alexander has arrived a limest a certainty that in the space between Mars and Jupiter once revolved a planet a little more than 2.8 times as far from the Sun as our earth. The equatorial diameter was about 70,000 miles, but the polar diameter only 8 miles! It was not a globe but a wafer, may a disk of a thickness of only 1-9,000 of its diameter. Its time of revolution was, 3.698 days, say 3 days 15 hours 45 minutes. The inclination o say 3 days 15 hours 45 minutes. The inclination of its orbit to the celliptic was about 4°. It met a fate that might have been anticipated from so thin a body whirling so furiously, for its motion on its axis was 1-16th of its velocity in its orbit, say 2,477 miles per hour. It burst as grindstones and fly-wheels sometimes do. We have found 35 fragments of it and call them A-teroids. When it burst some parts were moving 2,477 miles per hour faster than the center did, and some as much slower; that is, some parts moved 4,254 ing 2,477 miles per hour faster than the center dol, and some as much slower; that is, some parts moved 4,254 miles per hour faster than the others. These described a much larger orbit than the planet did, and the place where it burst was their perihelion. Others described a smaller orbit, because they left that point with a diminished velocity; it was their aphelion. Some few above the orbit of the planet and had their ascending node. Others flew below and it was their descending rode. They seemed to go almost in pairs. Two went very far out of the plane of the orbit so that they pass the limits of the panie of the orbits of hat they pass the limits of the zooise, and it is found that the as-cending node of 18 correspond nearly with the descend-ing node of 17. So nearly even were they distributed. And thin as was the planet it had not cooled so much at the three of the explosion that none of the frag-ments could assume a spherical form.

Space would fail us to show how the Professor devel-ting it then facts only now. The planets place was first

Space would fail us to show how the Professor developed these facts one by one. The planets place was first to be found. Thre or four independent processes were used for this and they agreed surprisingly. He interpolated it as a lost term in a geometric series, from Mars to Sature, for the first approximation. He compared it with Satura and Jupiter and with Mars and Jupiter. He found where a planet would be dropped off in the successive cooling and contracting of the solar system. And he compared its orbit for size and ell-pticity with those of the asteroids. Some of them gave solutions very far from the average rejecting these: the others coincided with previous deductions and with each other surprisingly. Its day he found by Kirkwood's analogy. Its equatorial diameter was the result of two calculations, one of which would inevitably give a result too large and the other too small in all cases when the planet did not explode at its equinor, when it would be exact. These numbers were 78,485 when it would be exact. These numbers were 76, and 68,656 miles. A just comparison gave 70,470, I we can follow these calculations no further. be doomed to work all his life in a narrow field, he secrifices himself to his age. And if a man recom-

It is curious to see bow the history of this planet verifies the theory of La Piace, that a heavenly body must be either nearly a sphere or a disk, and that the laster must be unstable. And this reminded Prof. Alexander again to allude to the earth's ring—the Zodiscai Light. He had long been convinced that the Moon could not be the only satellite thrown off by our planet in taking on its present form, but know not where to look for the rest. A more careful calculation of the data furnished by the Rev. Mr. Jones, had given him for the diameter of the ring 17,000 miles, and a him for the diameter of the ring 17,000 miles, and it time of about half a day for rotation. And cariously enough half a day was the time that had been assigned by a previous calculation for the revolution of an arolite around the Earth.

PARTIAL MULTIPLIERS OF DIFFERENTIAL EQUATIONS. BY BENJAMIN PEIRCE.

This paper furnished no reading matter. OS OUR SENSE of the Vertical and Horizontal, and

our Perception of Distances-By Lieut. E. B. HUNT. U. S. A.

Centinuous experience has made our sense of vertical and horizontal and of distance a matter of unconscious mental action. The sense of gravitation becomes very nice. In running rapidly down hill we feel the diminished weight that rests on the foot. direction of gravitation is probably derived from the direction of gravitation is probably derived from the pressure of fluids in the body. These perceptions, unaided by vision, became so perfect in John Metcalf (known as Biind Jack) as to enable him to lay out new and better roads over and about Derbyshire Peak. Our first estimates of distance are made by using the space between the eyes as a base of triangulation. Monocular vision must be very defective. The focus of the eye is the aext ground of calculation; these are corrected by touch. Then distinctness of outline, and lastly the color of the atmosphere, are the criteria of the widest distances. These, too, are corrected by experience. Exceptional cases show the truth of these laws. If you view a landscape with your head horizontal, the interocular space being vertical, all is characters change, and you judge badly of the distance. In passing rapidly a railroad curve you form a false judgment of the perpendientar, and the ground on the convex side seems depressed. From the Crow's Nest, near West Point, two reaches of the river can be seen, separated by a bill; the lower and further one appears like a mountain-lake, 250 feet above the other. Jones's Hill, three-quarters of a mile of gentle slope from Tappan Sea, appears like a high mountain when a fog comes half across the river, and forms a false horizon. A boat surrounded by fog appears as if seated in a depression of the sea. The size of the moon at rising, especially when seen from a railroad train through trees, or the flattened shape of the skydome, are further illustrations. The size of Satura's ring through a telescope, compared to everything from an orange to a cart wheel, shows how entirely we are pressure of fluids in the body. These perceptions, unring through a telescope, compared to everything from an orange to a cart wheel, shows how entirely we are at fault when we have but one eye to use, and no dat

CHEMISTRY AND NATURAL HISTORY.

Description of a New Apparatus for separating Gold and other Precious Metals from Foreign Substances. By E. N. Kent.

This apparatus has recently been put into operation at the U. S. Assay Office, New-York, where Mr. Kent is molter and refixer. The crushed earth and sand are first put into a hopper, where there is an apparatus for removing the larger metallic particles, which by flattening under the mill generally impede the grinding to a sufficient fineness to recover all the metal. That which enters the mill is there acted upon by water that at once carries most of the earthy matter to the amalgamator, but most of the gald remains at the bottom of the mill, from which it is taken and purified without mercury. All the ganyne then, and but very little of metal, is exposed to the action of mercury. This seems to be the peculiarity of the invention, as the cost of mercury and its effects on the health are two important items in mining. In Mr. Kent's apparatus the amalgamator may be used an entire week, without removing the mercury, which being constantly covered with water is exposed to no waste.

Mr. Sanderson Smith exhibited some very fine tening under the mill generally impede the grinding to

Mr. SANDERSON SMITH exhibited some very fine crystallize i slag. On the crystals one might play morris with a microscope.

UNIFORM WEIGHTS AND MEASURES.

Prof. BACHE, of the Committee on Weights and Measures, said that the world seemed to be growing riper and riper for the staption of a uniform system. At the Exhibition in England was took a definite form, and an association was now being to-med in England and an association was now now a segment. Ringiand for the purpose of producing such uniformity. While British system, they were taking steps toward a better one. There was also a committee on this uniformity at the Paris Exhibition. He would present the following condition.

ing resolution : Resolution:
Resolution:
Resoluted, That the Committee on Weights, Measures and loinage be authorized to communicate with other associations ryphic bedies, or with individuals, in regard to the attainment of permanent uniformity in weights, measures and activation of the resolution that the Committee be increased by the

addition of Dr. Gibbons, W. B. Rogers, J. L. Smith and B. A. Gould was adopted, as well as the preceding. But not until DR. GISBONS had endeavored to separate coinage

from weights and measures. He arged that the mint was put to very great expense to stamp coins, which were immediately taken to Europe to be melted down. The Association then divided into Sections.

In the Section of Geology, Mr. James Hall gave some account of the geology of Nebroska and the Mauvaise terres. The country on the Upper Missouri River-Nebraska-he said had been known to us for many years. Until within a few years past our knowledge had been derived from Lewis and Clark, Nicolay, and some others. All these had brought specimens from Nebraska, from which we had learned that for a great distance along the Missouri River, beginning at the mouth of the Platte and extending several hundred miles northerly for a long time, to the demand.

the Miseouri River, beginning at the mouth of the Platte and extending several hundred miles northerly, there was a cretaceous formation, the most prominent tossils of which were Ammonites and Baculites. All had shown that this existed on a largely developed scale, but, with the exception of Nicolay, no attempt was made to establish subdivisions. In 1847 we had for the first time a published notice of the existence of an extensive tertiary formation in that region, given by Dr. Prout of St. Louis. This was, however, to the West of Missouri. Subsequently Mr. Culbertson brought collections, and Dr. Owen directed Mr. Evans to make collections, from which we had a pretty good knowledge of tertary and its mammalis. Mr. Hall's principal object in making collections was not to make discoverice of new species, but the investigations of Dr. Owen did not tell us whether there were distinct formations or not, and moreover it seemed an important consideration that the flora corresponding to the ancient farma should be known. That was not accomplished by the expedition, but we had some more details with regard to the tertiary and cretaceous formations. In the neighborhood of the mouth of the Platte the carboniferous formation terminated. Passing up the Missouri we found that the carboniferous passed into cretaceous. At their junction was a sandstone, which might perhaps be older than the cretaceous. Upon it lay a buff calcarous rock, which would mark like chalk, containing scales and jaws of fishes. Above this was a great thickness of clays which contained most of the species that had been brought from this part of the country. A thinner bed above the clay was characterized by a large baculite. The species already described already amounted to between thirty and forty, and he had about an equal number of new species. At a considerable distance west of the Missouri the cretaceous beds began te dip slightly to the west. Above the bed characterized by baculites and 90 miles west of the Missouri commenced the tertiary, at first tacrous, aithough the tertary hearer the river was 30 or 60 feet high. They concluded, therefore, that the beds were unconformable, the cretaceous dipping westward and the tertary being deposited horizontally upon it so that the eastern tertiary began to be deposited when the western was already 250 feet thick. The mauralises terres were formed of this tertiary extensively denuded. Two new species of mammals had been discovered, one of them alliest to the musk deer and the other a small, carniverous animal. He was indebted to Mr. Meek and Mr. Hayden for the specimens which he exhibited. The shortest term to express the which he exhibited. The shortest term to express the character of Nebraska was to say that it was a perfect. character of Nebraska was to say that it was a perfect desert, incapable of supporting men or animals except in a migratory condition. The buffalces came in the Spring with the grass and went away in Midsummer when it was gone and the Indians followed them. There was almost no wood; some few shrabby willows, and a cotton-wood a foot in diameter was always known as the big cotton-wood, and now that it was gone the place was still called Big Cotton-Wood Spring. Fure water was rarely met with. There were occasionally some springs in the baculite formation which commenced 75 miles west of the Missouri. The deep clay beneath it was almost impassable. In the Spring it was all mud and in the Summer the clay cracked so as to draw out the roots of vegetation and cracked so as to draw out the roots of vegetation and destroy it. Along the bottoms was occasionally little good soil, but it was not valuable. This clayer soil was dark but not with organic maiter. He had seen in Mr. Meeks's notes that night after night he was compelled to camp with bitter water and sand out the men to gather a few stanted willows or cotton-

wood for fire. Most of the water was impregnant with saline materials; and as all the water in the may value Terres contained sulphate of magneta to party were compelled to submit to its medical effects. Southward toward the Platte was some terms and but little wood. Kansus was much like Nebraka, and the climate was such that in a great party the Territory it would be difficult for New Lagran men to exist. He knew that Nebraska was a few and would remain so for all time to come the curse of barrenness does not apply to the settler vitions of Kansas. They are carbox iferous.]

Prof. Acassiz said that this was very important is us as presenting for the first time the subdivisors.

us as presenting for the first time the subdivison of the cretaceous. His friend had omitted in his account of early explorers, the Prince of Nonwied, who is travels collected cretaceous fossils, and went back to Europe and gave us for the first time the information that there were cretaccous fossils there. Several them were published, and one species, the mesus them were published, and one species, the messar, rus, had not been re-discovered. Now it was eviden that these cretaceous deposits were not one and to same, but formed a succession of deposits which contained different fossits. Now in Europe the whole a ries of cretaceous formations had lately been said vided into a number of subdivisions, and although a surced comp etely with the destrine aid down by stochairman (Prof. Dana), that we should not compare our formations servilely to those of Europe, yet deposition of the whole cretaceous series in Europe, and in America were in the main synchronic. He believed that the specimens of Prof. Hall, limited a they were, afforded in themselves sufficient evidence that the cretaceous deposits in Nebraska corresponds to the upper streta of the cretaceous in Europe, in had not yet seem a single eatire fish-scale, only drawings of fragments of scales, but he was sure that the upper beds were the equivalents of the English white chalk.

Mr. Hall, then spoke on the geology of the Rose. Mr. HALL then spoke on the geology of the Rocks

Mountains. He said that his knowledge of the Rock Mountains was derived from specimens brought b reduced and Emory. All the specimens from a metamorphic regions, whether from the north or some had one character, and there was a large proportion and the state of the proportion of the propo Fidment and Emory. All the specimens from & the coal deposits of the south-west were of tenar-origin, and he strongly suspected that that brought be Capt. Stansbury was tertiary also. There was postively tertiary coal in the plateau between the range and the Sait Lake.

Prof. Agassiz would say in relation to tertiary on that the steamers on the Swiss lakes had no other and he knew that the English engineers employed on them never complained. He remembered that the rocks which contained it were associated with pala-dina and planothis and the like, so that there was no doubt that it was tertiary.

Mr. EDWARD DANIELS gave a detailed description of the geological formations of Wisconsin, In the course of it he mentioned a timestone so bituminos that when employed in building the bitumen fried out

Prof. HALL said that in the shales of the Hamilton group there were large accumulations of bitamines matter. He said also that he was convinced that matter. He said also that he was convinced the about three-fourths of the Missouri and Illinoiscot helds marked out by Gwen would have to be wipel off the map, and its place supplied by Silurian with its Pentamerus, oblongus and other characteristic fessils. He had seen Lower Silurian and Upper Silurian forsils over large areas of Owen's coal fields. He supposed most of that coal to be outlayers resting it busins, and having no connection with each other.

Prof. Agassiz said that he might not for years have an opportunity of making known the results of b comparison of fossil fishes. The general result in re comparison of fossil fishes. The general rould in regard to the coal measures was, that there were twe very different kinds of school, once represented by the very metascorphic fragments now on the table, widentical in its character with that which Dr. Neberry had found in Ohio, and that of Glasgor, the berry had found in Ohio, and that of Glasgor, the beauth of Southern Illinois, whence Dr. Cassidy had sent him a number of fossils, were ten or twelve fishes, as many as were generally found in a water ball first fishing for one senson. This fish found was idecited in its character with that of Bristol in England. The two were as different as the fish faunt of the Hitch and Mediterrancan, or the Meditertancan and the e and Mediterranean, or the Medicerta

The reception in the evening at the house of the Mayor of Providence, James Y. Smith, Esq., was the most fully attended, and withal perhaps the most agreeable that has yet taken place. A larger number of Providence ladies were present than at the other though we were sorry to miss some from abroad that have made our other evenings so agreeable. Circusambulation became rather difficult before the refreshthe little barricades that he met in every direction while a lady at his side shared his detention. As gonerally before, the beverages were limited to water, emonade and coffee, and there were few who would not have felt that more exciting decoctions were we called for and out of place. Per contra-of thesiables there appeared to be no end to the supply, so

THE WOMAN'S RIGHTS CONVENTION. Correspondence of The N. Y. Tribune.

SARATOGA, Aug. 17, 1856.

The Woman's Rights Convention here closed vesterday, after a session of two days. It is sa old prophecy, that the last shall be first. The last darling of mother and hobbyist is always as improvement upon its predecessors; but certainly we have had few Conventions, and surely no State Convention, which, on the whole, he been a greater success than this. Each meeting has been fully attended, half of them crowded; one evening numbers were turned away for want

of room. The longest and principal addresses of the Convention were made by Mrs. Ernestine L. Rose and Mrs. Lucy Stone Blackwell. Both these ladies were radical and fundamental in developing the principles of the cause they advocate and also in the incidental allusions to kindred re-

forms, and the expression of individual opinion.

Mrs. Rose is always logical, always eloquent, a ways powerful, often very apt and witty. She was wholly equal to herself. The first evening she ecupied mainly with the educational question. Many were ready heartly to indorse all she said, who were yet able deeply to regret that the political question was to have a large place in the Convention; but after they had heard her and others remark upon the different phases of the latter there. mark upon the different phases of the latter theme-if they could not find truth and reason—a need and a justice for allowing Woman's claim of perfect civil and political equality-it must have been for one of two reasons, either they could not com prehead the arguments set forth or else they wester not comprehend them, for seeing the practical re-

Mrs. Lucy Stone Blackwell has all the touching beautiful eloquence which seemed sui generis to Miss Lucy Stone. The needed rest of a few months and doubtless the harmony of her new relations. seem to have wrought well toward all her gifts. have never heard her speak with more ease and clearness, with more freshness and aptness of illutration, with more wit and sparkle of phraseologiand more simple, self-evident logic than in the Convention. Surely her last days will be her best days! Many echoed this thought with pleasure self-evident logic than in the convention.

they listened.

Perhaps scarcely an audience could be gathered throughout the country who would, at heart, feel less like giving an enthusiastic reception to one who is prefiminently the popular speaker. Tet whatever prejudices may have existed in the minds whatever prejudices may have existed in the minds. of any or all, she can never have produced a more marked expression of upon her andience, except in those rare moments when speakers and hearers were all wrought up together to the highest point of